



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/019,919	04/09/2002	James Anthony Larkin	7038.3010.001	1465

7590 12/02/2003

Robert L Stearns
5291 Colony Drive North
Saginaw, MI 48603

EXAMINER

SY, MARIANO ONG

ART UNIT	PAPER NUMBER
----------	--------------

3683

DATE MAILED: 12/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

86

Office Action Summary

Application No.

10/019,919

Applicant(s)

LARKIN ET AL.

Examiner

Mariano Sy

Art Unit

3683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-32 is/are pending in the application.
- 4a) Of the above claim(s) 25-32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 11.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. The amendment filed on October 1, 2003 has been received.
2. The terminal disclaimer filed on October 1, 2003 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of 10/019,919 has been reviewed and is NOT accepted.

The person who signed the terminal disclaimer is not recognized as an officer of the assignee, and he/she has not been established as being authorized to act on behalf of the assignee. See MPEP § 324.

The assignee has not established its ownership interest in the application, in order to support the terminal disclaimer. There is no submission in the record establishing the ownership interest by either (a) providing documentary evidence of a chain of title from the original inventor(s) to the assignee, or (b) specifying (by reel and frame number) where such documentary evidence is recorded in the Office (37 CFR 3.73(b)).

3. This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

The species are as follows:

Specie A, figures 2-5
Specie B, figures 6-9
Specie C, figures 10-13
Specie D, figures 14-17
Specie E, figures 18-20
Specie F, figures 21-23
Specie G, figures 24-27
Specie H, figures 28-30.

Art Unit: 3683

Applicant is required, in reply to this action, to elect a single species to which the claims shall be restricted if no generic claim is finally held to be allowable. The reply must also identify the claims readable on the elected species, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered non-responsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

The claims are deemed to correspond to the species listed above in the following manner:

Specie A, figures 2-5, claims 23 and 24

Specie B, figures 6-9

Specie C, figures 10-13, claims 23, 26, and 27

Specie D, figures 14-17, claim 23

Specie E, figures 18-20

Specie F, figures 21-23, claims 23 and 28

Specie G, figures 24-27, claims 23, 29, and 30

Specie H, figures 28-30, claims 31 and 32

The following claim(s) are generic: claims 12-22.

Art Unit: 3683

The species listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, the species lack the same or corresponding special technical features for the following reasons:

Specie A, figures 2-5, shows a closed loop format wire spring.

Specie B, figures 6-9, shows a leaf spring with a pair of resilient flanges.

Specie C, figures 10-13, shows a wire-format spring with a hairpin-form spring format.

Specie D, figures 14-17, shows a spring adapted to straddle the disc at the inner periphery of the latter while cooperating with the hub.

Specie E, figures 18-20, shows a leaf spring of generally arcuate format with resilient flanges.

Specie F, figures 21-23, shows a loop-format wire spring of generally bowed side elevation profile.

Specie G, figures 24-27, shows a generally X-format wire spring.

Specie H, figures 28-30, shows a strip of spring steel includes a number of apertures and notches at both ends.

4. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

5. During a telephone conversation with Attorney Harold W. Milton, Jr. on November 17, 2003 a provisional election was made with traverse to prosecute the invention of Specie A, figures 2-5, claims 23 and 24. Affirmation of this election must be made by applicant in replying

Art Unit: 3683

to this Office action. Claims 25-32 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention. Claims 12-22 are generic claim.

6. Claims 14, 15 and 19 are objected to because of the following informalities:

Claim 14, line 5 "symetrically" should be --symmetrically--,

Claim 15, line 4 "disc having" should be --having--,

Claim 16, lines 3-4 "said drive keys" should be --said drive key--,

Claim 19, line 5 "symetrically" should be --symmetrically--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 12, 13, 15-18, 23, and 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 12 recites the limitation "each associated" in line 13. It is unclear as to what applicant is referring to.

Claim 12 recites the limitation "the mounting" in line 16. It is unclear as if applicant is referring to --rotatable mounting--.

Claim 15 recites the limitation "the mounting" in line 6. It is unclear as if applicant is referring to --rotatable mounting--.

Art Unit: 3683

Claim 15 recites the limitation "each associated" in line 12. It is unclear as to what applicant is referring to.

Claim 24 recites the limitation "the mounting" in line 4. It is unclear as if applicant is referring to --rotatable mounting--.

Claims 23 and 24 are indefinite due to their dependency on claim 15.

Double Patenting

9. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

10. Claims 12, 14, 15, and 19 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 18, 19, 24, 26, 27, and 33 of copending Application No. 09/995,935. Although the conflicting claims are not identical, they are not patentably distinct from each other because the subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and

Art Unit: 3683

the instant application are claiming common subject matter, as follows: brake disc, hub or rotatable mounting, pair of friction elements, and spring members or resilient device.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

12. Claims 12-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Bunker (U.S. Patent Number 6,305,510 B1).

Re-claims 12 and 13 Bunker discloses, as shown in fig. 1-6, a method of mounting a disc brake system comprising: providing at least one brake disc 14 having braking surface on opposite sides; interconnecting the at least one brake disc and a rotatable mounting 12 with drive keys 46 such that the brake disc is rotatable with the rotatable mounting and slidable axially relative to the rotatable mounting; arranging at least one pair of friction elements on the opposite sides of the brake disc operative when actuated to axially displace said brake disc and frictionally engage the braking surfaces on the brake disc to effect braking action; and mounting a plurality of resilient devices 62 at circumferentially equi-spaced locations on the brake disc and each resilient device is associated with a drive key and slidable axially with the brake disc and

Art Unit: 3683

exerting a constant resilient bias force between the brake disc and rotatable mounting for centering the brake disc relative to the rotatable mounting, wherein the resilient device is in the form of a plurality of resilient spring members mounted on and movable with the brake disc.

Re-claim 14 Bunker discloses, as shown in fig. 1-6, a method of mounting an axially movable brake disc 14 on a rotatable mounting 12 of a disc brake system, comprising: providing a plurality of resilient devices 62, adapted to act between the brake disc and the rotatable mounting at circumferentially equi-spaced positions around the brake disc, and symmetrically mounting the resilient device on the brake disc for axial movement with the brake disc and to apply a centering and anti-tilt resilient bias force directed from the brake disc to the rotatable mounting.

Re-claims 15-18 Bunker discloses, as shown in fig. 1-6, a disc brake system comprising: a rotatable mounting 12; at least one brake disc 14 having opposite side braking surfaces; drive keys 46 interconnecting said brake disc and said rotatable mounting for rotation while allowing axial displacement; at least one pair of friction elements when actuated to frictionally engaged said braking surfaces of brake disc to effect braking action of said brake disc and said rotatable mounting; and a plurality of resilient devices 62 mounted at circumferentially equi-spaced locations on said brake disc and each resilient device is associated with a drive key and movable axially with said brake disc relative to said rotatable mounting, said resilient devices acting between said brake disc and said rotatable mounting to apply a resilient bias force from said brake disc to said rotatable mounting for centering said brake disc; wherein said resilient device straddles said drive key of said brake disc and comprises at least one leaf spring having resilient flanges engaging said brake disc; wherein said resilient device comprises at least one spring

Art Unit: 3683

disposed under stress between said brake disc and said rotatable mounting to exert said resilient bias force.

Re-claims 19-22 Bunker discloses, as shown in fig. 1-6, a disc brake system comprising: an axially movable brake disc 14 on a rotatable mounting 12 of a disc brake system, comprising: providing a plurality of resilient devices 62, adapted to act between the brake disc and the rotatable mounting at circumferentially equi-spaced positions around the brake disc, and symmetrically mounting the resilient device on the brake disc for axial movement with the brake disc and to apply a centering and anti-tilt resilient bias force directed from the brake disc to the rotatable mounting; wherein said brake disc includes drive keys 46 engaging associated drive keyways 44 of said rotatable mounting, said resilient drive straddling said drive keys of said brake disc; wherein said resilient device comprises at least one leaf spring having resilient flanges engaging said brake disc; wherein said resilient device comprises at least one spring disposed under stress between said brake disc and said rotatable mounting to exert said resilient bias force.

13. Applicant's arguments with respect to claims 12, 14, 15, and 19 have been considered but are moot in view of the new ground(s) of rejection.

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


Art Unit: 3683

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mariano Sy whose telephone number is 703-308-3427. The examiner can normally be reached on Mon.-Fri. from 9:00 A.M. to 3:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Lavinder, can be reached on 703-308-3421. The fax phone number for the organization where this application or proceeding is assigned is 703-305-7687.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

 M. Sy

November 19, 2003


JACK LAVINDER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 8000